Key Points Summary

- For a reaction:

$aA + bB \rightleftharpoons cC + dD$

the equilibrium constant K is given by:

$$K = \frac{[C]^c \times [D]^d}{[A]^a \times [B]^b}$$

- Changes in pressure P, volume V and temperature T affect a reacting system in different ways.

Change	Reaction Favoured	Equilibrium Position	Value of K
adding a reactant	forward	shifts to the right	no change
removing a product	forward	shifts to the right	no change
increasing P by decreasing V	one which forms fewer gas moles	shifts to the side with fewer gas moles	no change
increasing P by adding an unreactive gas	neither	no change	no change
increasing T	endothermic	shifts in the direction of the endothermic reaction	**to the left - K decreases** **to the right - K increases**
adding a catalyst	both equally	no change	no change

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